

WHAT IS CLAIMED IS:

1. A computer system, comprising:

a plurality of resources including a plurality of processors;

5 a distributed point-to-point transmission infrastructure for interconnecting the plurality of processors; and

at least one partitioning processor for configuring the plurality of resources into at least one partition, each partition comprising a subset of the plurality of resources, the at least one partitioning processor being operable to configure the resources by writing to at least one of a plurality of routing tables associated with the processors according to a previously specified partitioning schema, each routing table representing links between an associated processor and other ones of the plurality of processors, the links corresponding to portions of the point-to-point transmission infrastructure.

15 2. The computer system of claim 1 wherein the plurality of resources further includes at least one of a memory device, a memory range, an I/O bus, I/O devices coupled to an I/O bus, and an interrupt mechanism for routing interrupts.

20 3. The computer system of claim 1 wherein the plurality of resources includes an I/O switch, the I/O switch having one of the routing tables associated therewith representing links between the I/O switch, at least one of the processors, and at least one I/O resource.

25 4. The computer system of claim 3 wherein the at least one I/O resource comprises at least one of an Ethernet device and a SCSI device.

5. The computer system of claim 1 wherein each routing table comprises a table of entries, each of selected ones of the entries associating an address of one of the resources with one of the processors and a link for connecting with the one of the processors.

6. The computer system of claim 1 wherein the distributed point-to-point transmission infrastructure comprises a coherent HyperTransport (cHT) infrastructure.

7. The computer system of claim 1 wherein the distributed point-to-point transmission infrastructure interconnects the processors using a ring topology.

8. The computer system of claim 1 wherein the distributed point-to-point transmission infrastructure interconnects the processors using a mesh topology.

9. The computer system of claim 1 wherein the distributed point-to-point transmission infrastructure directly connects each of the processors with every other one of the processors.

10. The computer system of claim 1 wherein the at least one partitioning processor comprises at least one of the plurality of processors interconnected by the distributed point-to-point transmission infrastructure.

11. The computer system of claim 1 wherein the at least one partitioning processor is separate from the plurality of processors interconnected by the distributed point-to-point transmission infrastructure.

12. The computer system of claim 11 further comprising a boot memory for facilitating initialization of the computer system, the boot memory having computer program instructions stored therein for facilitating operation of at least one of the plurality of processors as the at least one partitioning processor.

13. The computer system of claim 1 wherein the previously specified partitioning schema is generated in response to an event occurring during operation of the computer system.

14. The computer system of claim 13 wherein the event comprises one of initialization of the computer system, a failure of at least one of the resources, a change in operating load associated with at least one of the resources, passage of a period of time, use of particular software, and a change in available power resources.

15. The computer system of claim 1 further comprising at least one partitioning processor link for connecting the at least one partitioning processor with a user interface, and wherein the previously specified partitioning schema is specified by a user of the computer system via the user interface and the at least one partitioning processor link.

16. The computer system of claim 1 wherein the at least one partitioning processor is operable to generate the routing tables upon initialization of the computer system.

17. The computer system of claim 1 wherein the at least one partitioning processor is operable to alter the at least one of the routing tables during operation of the computer system.

5 18. The computer system of claim 1 wherein the at least one partition comprises a plurality of partitions.

10 19. The computer system of claim 18 wherein at least one of the plurality of partitions comprising a functional subset of the plurality of resources.

20. The computer system of claim 1 wherein the at least one partition comprises a single partition including all operational ones of the plurality of resources.

15 21. The computer system of claim 1 wherein the at least one partitioning processor comprises one partitioning processor.

22. The computer system of claim 1 wherein the at least one partitioning processor comprises more than one partitioning processor.

20 23. A computer implemented method for use in a computer system having a plurality of resources including a plurality of processors and a distributed point-to-point transmission infrastructure for interconnecting the plurality of processors, the method comprising configuring the plurality of resources into at least one partition, each partition comprising a subset of the plurality of resources, the configuring of the resources being
25 effected by writing to at least one of a plurality of routing tables associated with the

processors according to a previously specified partitioning schema, each routing table representing links between an associated processor and other ones of the plurality of processors, the links corresponding to portions of the point-to-point transmission infrastructure.

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24. The method of claim 23 wherein the plurality of resources includes an I/O switch, the I/O switch having one of the routing tables associated therewith representing links between the I/O switch, at least one of the processors, and at least one I/O resource.

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25. The method of claim 24 wherein the distributed point-to-point transmission infrastructure comprises a non-coherent HyperTransport (ncHT) infrastructure.

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26. The method of claim 23 wherein configuring the plurality of resources is achieved using at least one partitioning processor which comprises at least one of the plurality of processors interconnected by the distributed point-to-point transmission infrastructure.

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27. The method of claim 23 wherein configuring the plurality of resources is achieved using at least one partitioning processor which is separate from the plurality of processors interconnected by the distributed point-to-point transmission infrastructure.

28. The method of claim 23 further comprising generating the previously specified partitioning schema in response to an event occurring during operation of the computer system.

29. The method of claim 28 wherein the event comprises one of initialization of the computer system, a failure of at least one of the resources, a change in operating load associated with at least one of the resources, passage of a period of time, use of particular software, and a change in available power resources.

30. The method of claim 23 further comprising receiving the previously specified partitioning schema as specified by a user of the computer system.

31. The method of claim 23 wherein writing to the at least one of the plurality of routing tables comprises generating the plurality of routing tables upon initialization of the computer system.

32. The method of claim 23 wherein writing to the at least one of the plurality of routing tables comprises altering the at least one of the routing tables during operation of the computer system.

33. The computer system of claim 23 wherein the at least one partition comprises a plurality of partitions.

34. The computer system of claim 33 wherein at least one of the plurality of partitions comprising a functional subset of the plurality of resources.

35. The computer system of claim 23 wherein the at least one partition comprises a single partition including all operational ones of the plurality of resources.

36. A computer system, comprising:

a plurality of resources including a plurality of processors;

a distributed point-to-point transmission infrastructure for interconnecting the plurality of processors; and

at least one partitioning processor for configuring the plurality of resources into at least one partition, each partition comprising a subset of the plurality of resources, the at least one partitioning processor being operable to configure the resources by enabling at least one link between at least one of the plurality of processors and at least one other one of the plurality of processors according to a previously specified partitioning schema, the at least one link corresponding to a portion of the point-to-point transmission infrastructure.

37. The computer system of claim 36 wherein enabling the at least one link comprises writing to at least one of a plurality of routing tables associated with the processors according to the previously specified partitioning schema.

38. The computer system of claim 36 wherein enabling the at least one link comprises closing at least one switch associated with the at least one link according to the previously specified partitioning schema.

39. A computer implemented method for use in a computer system having a plurality of resources including a plurality of processors and a distributed point-to-point transmission infrastructure for interconnecting the plurality of processors, the method comprising configuring the plurality of resources into at least one partition, each partition comprising a subset of the plurality of resources, the configuring of the resources being effected by enabling at least one link between at least one of the plurality of processors and

at least one other one of the plurality of processors according to a previously specified partitioning schema, the at least one link corresponding to a portion of the point-to-point transmission infrastructure.

5 40. The method of claim 39 wherein enabling the at least one link comprises writing to at least one of a plurality of routing tables associated with the processors according to the previously specified partitioning schema.

10 41. The method of claim 39 wherein enabling the at least one link comprises closing at least one switch associated with the at least one link according to the previously specified partitioning schema.

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